



## **BOULDER RIVER DRAINAGE**

### **PHYSICAL DESCRIPTION**

The Boulder River is formed at the confluence of its South and West Forks (elevation 6,740 feet) on the east side of the Continental divide north of Butte, Montana. It flows east to Boulder Montana, then south to its confluence with the Jefferson River near Cardwell, Montana. It is 78 miles in total length. Only the upper 26 percent of streams are within the boundary of the Beaverhead-Deerlodge National Forest. Major tributaries—progressing downstream—are: Lowland, Bison, Basin, Cataract and Muskrat creeks and the Little Boulder River. The Boulder River drains an area of approximately 763 square miles.

Cold Springs enters the Boulder River about 10 miles upstream of the confluence with the Jefferson River, and water quality improves significantly in this reach. In addition to supporting a quality resident fishery, large numbers of spawning brown trout from the Jefferson River enter this reach of the Boulder River during the fall.

### **FISHERIES MANAGEMENT**

The Boulder River is managed as a wild trout fishery, emphasizing natural reproduction. The basin is also suitable for westslope trout recovery efforts in many locations. The Boulder River drainage contains fish species common to southwestern Montana. The native species found here include westslope cutthroat trout, mountain whitefish, mountain sucker, longnose dace, longnose sucker, Rocky Mountain sculpin, and white sucker. Nonnative species are the rainbow trout, brown trout, brook trout, and common carp. Hybrids of rainbow trout and westslope cutthroat trout are also found in the drainage.

Fish stocking records for the Boulder River are documented to begin in the 1920s and continued through the early 1970s when wild trout management philosophies were instituted. Beginning in the late 1920s, undesigntated cutthroat trout, rainbow trout, brook trout, brown trout and arctic grayling were stocked. Between the early 1950s and early 1970s, only rainbow trout were stocked into the Boulder River drainage.

The fishing regulations for trout in the Boulder River drainage are covered by the Central District Standard regulations with the exception of a seasonal closure (1 November through the 3<sup>rd</sup> Friday in May) to protect spawning trout (from the Jefferson River) in the lower reaches of the Boulder River. Over the past decade, angler use of the Boulder River has varied from 2,962 angler days in 2001 to 11,009 angler days in 2009. The major tributaries (East Fork Boulder, Little Boulder River, and South Fork Boulder River) receive little angling use annually.

### **HABITAT**

The Boulder River has a mean gradient of 33.7 feet per mile. At the Beaverhead-Deerlodge National Forest boundary above Basin, the stream averages 47.4 feet in width at the spring flow levels. The river upstream from Boulder, Montana has a narrow floodplain, a high elevation and steep gradient. Riparian vegetation primarily consists of willows, alders, conifers, and to a lesser extent, cottonwoods and aspens. The reach of river downstream from Boulder has a wider

floodplain through which the river meanders, a lower elevation and a more gradual gradient. Riparian vegetation primarily consists of cottonwoods, aspens and willows.

Flows in the river depend primarily on snowpack in the mountains, although a number of large springs add to the flow in the lower valley. The major use of water from the Boulder River below Boulder, Montana is for agricultural purposes.

Extensive portions of the Boulder River have been relocated as a result of mining, agricultural, road, and railroad building activities. Portions of the upper river channel (town of Boulder to Bernice) were relocated to accommodate Interstate 15. In addition, riprapping of the banks and vegetation removal has affected other stretches.

### **FISHING ACCESS**

Angling access is readily available in the headwaters due to the dominance of federal land ownership (USFS, BLM), and public roads located along the river upstream of Boulder provide numerous locations to gain access to the river. From the town of Boulder to the confluence with the Jefferson River, access is generally limited to county road bridges. There are no FASs administered by FWP on the Boulder River, but the Candlestick Ranch near Cardwell provides a unique access opportunity provided by Golden Sunlight Mine in coordination with FWP.

### **SPECIAL MANAGEMENT ISSUES**

Hard rock mining for metallic minerals in the Boulder River drainage was extensive in the late 1800s and early 1900s. This past mining is still affecting the river downstream from Basin, Montana where heavy metals emanating from acid mine seeps and mill tailings cause a major water quality problem. Stream sediments in the river channel and floodplain contain high concentrations of zinc, copper and lead, extending some 25 miles downstream from the source areas. In the Boulder River downstream from the town of Basin, depressed standing crops of trout have been associated with higher metals concentrations in the river. Other studies from the 1970s showed that metals pollution and stream sedimentation were affecting the distribution and abundance of aquatic insects in the Boulder River.

The Boulder River drainage is also home to several conservation populations of westslope cutthroat trout providing opportunities to conserve this native species in the drainage. The goal of cutthroat conservation work is to secure populations in habitat that is free from the threats of nonnative species and much of this work will be done upstream of natural and man-made fish barriers. A cutthroat trout population is considered secure when it has a minimum population size of 2,500 fish, occupies at least 5-6 miles of stream and is free from the threats of competition and hybridization from non-native species. The long-term goal of cutthroat conservation in the Boulder is to have 20% of the historically occupied habitat restored to cutthroat trout.

### FISHERIES MANAGEMENT DIRECTION FOR BOULDER RIVER DRAINAGE

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Boulder River and Tributaries (Headwaters to Boulder)	35 miles	Brook trout, Rainbow trout, Mountain whitefish	Wild	General	Maintain present numbers and sizes. Consider increasing angler harvest to reduce numbers if necessary to maintain fish growth.
		Westslope cutthroat trout	Wild	Conservation/ Special Regulations	Continue native species conservation to maintain or create viable, genetically unaltered, self-sustaining populations
Habitat needs and activities: Initiate mine reclamation to improve water quality and coordinate with Forest Service activities.					
Boulder River and Tributaries (Boulder to Cold Springs)	35 miles	Rainbow trout, Brown trout, Mountain whitefish	Wild	General	Maintain present numbers and sizes. Consider increasing angler harvest to reduce numbers if necessary to maintain fish growth
Habitat needs and activities: Continue to improve instream flow, by looking for opportunities to lease water or improve efficiency in irrigational infrastructure and methods.					
Boulder River and Tributaries (Cold Springs to Confluence with Jefferson River)	10 miles	Brown trout, Rainbow trout	Wild	General	Maintain present numbers and sizes. Consider increasing angler harvest to reduce numbers if necessary to maintain fish growth. Continue to protect spawning runs

